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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

DOE, JANIS L

ART UNIT	PAPER NUMBER
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1756

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/880,689

Applicant(s)

FIELDS ET AL.

Examiner

Janis L. Dote

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2,4-7,9-11,13-20,22-33,35-41 and 44-46 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,4-7,9-11,13-20,22-33,35-41 and 44-46 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 1/18/05.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

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1. The examiner acknowledges the amendments to claims 4, 6, 11, 13-15, 30-32, and 40, and the addition of claims 44-46 set forth in the amendment filed on Jun. 30, 2004. Claims 2, 4-7, 9-11, 13-20, 22-33, 35-41, and 44-46 are pending.

2. The information disclosure statement (IDS) submitted on Jan. 18, 2005, was filed after the mailing date of the office action mailed on Mar. 30, 2004. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

3. The rejections of claims 13-15 and 22-24 under 35 U.S.C. 112, second paragraph, set forth in the office action mailed on Mar. 30, 2004, paragraph 7, have been withdrawn in response to the amendments filed on Jun. 30, 2004, to claims 13-15.

The rejection of claims 14, 15, 23, and 24 under 35 U.S.C. 112, first paragraph, set forth in the office action mailed on Mar. 30, 2004, paragraph 9, has been withdrawn in response to the amendments filed on Jun. 30, 2004, to claims 14 and 15.

The rejections of claims 2, 5-7, 14, 16, 23, 31, 32, 36, 37, and 39 under 35 U.S.C. 102(e)/103(a) over US 6,692,880 B2 (Fields' 880), and of claims 9-11, 15, 18-20, and 24 under 35

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U.S.C. 102(e)/103(a), set forth in the office action mailed on Mar. 30, 2004, paragraphs 13 and 14, have been withdrawn in response to the amendments filed on Jun. 30, 2004, to independent claims 31 and 32, adding the limitation that the toner particles comprise a "single charge control agent." As noted by applicants in their response filed on Jun. 30, 2004, page 13, lines 1-9, Fields' 880 teaches toner particles comprising two charge control agents.

4. The term "2'/10' MECCA charge ratio" is defined as the ratio of the level of charge obtained in 2 minutes of charging the toner to the level of charge obtained after 10 minutes of charging, where the charge is determined in a MECCA device. See the instant specification, page 19, lines 15-21, and page 22, lines 1-15.

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

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6. Claims 4, 17, 30, 35, and 44 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Instant claims 30 and 44 recite that the "toner particles comprising . . . a polyethylene wax or a cross-linked styrene-acrylate polymer."

The originally filed specification does not provide an adequate written description of said toner particles. The originally filed specification at page 9, lines 19-20, discloses that the toner binder resin may comprise a cross-linked styrene-acrylate polymer. The term "cross-linked styrene-acrylate polymer" recited in instant claims 30 and 44 is broader than the disclosed toner binder resin, because it encompasses said polymer being used other than as a toner binder resin, e.g., being used in polymeric surface treatment particles.

Applicant's arguments filed on Jun. 30, 2004, have been fully considered but they are not persuasive.

Applicants assert that the "term is clearly used in the present application. For instance, at page 25, Table 2, the

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toner formulation includes a cross-linked styrene-acrylate copolymer. Applicants further assert that "there are numerous patents in the specification that are referenced for the purposes of the toner resin."

Applicants' arguments do not address the rejection. The rejection is not based on whether there is antecedent basis for the term "cross-linked styrene acrylate polymer." Rather, the rejection is based on the fact that claims 30 and 44 do not recite that the cross-linked styrene acrylate polymer is used as a toner binder resin. As discussed in the above rejection, the originally filed specification identifies the "cross-linked styrene acrylate polymer" as a toner binder resin. In view of the disclosure in the originally filed specification, a person having ordinary skill in the art would have readily recognized that the "cross-linked styrene acrylate polymer" in the toner formulations is used as a toner binder resin. The originally filed specification does not disclose that the cross-linked polymer can be used for other than as a toner binder resin.

7. The reference US 6,692,880 B2 (Fields'880) has an effective filing date of May 14, 2001, which is before the filing date of Jun. 13, 2001, of the instant application. The disclosure cited in Fields'880 has antecedent basis in the US provisional

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application No. 60/290,707 in the paragraph bridging pages 11 and 12, and at pages 21-23.

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claims 4, 17, 30 and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6,692,880 B2 (Fields'880), as evidenced by the US provisional application 60/290,707 (Application'707).

Fields'880 exemplifies a developer comprising a magnetic carrier and toner particles. The toner particles comprise 88.9 wt% of a crosslinked styrene-butylacrylate copolymer associated with the tradename SB77X1, produced by Eastman Kodak, 6.2 wt% of carbon black, 1.5 wt% of an organo iron complex charge control agent associated with the tradename T77, and 2.0 wt% of a polyethylene wax. The toner particles are surface treated with 0.30 wt% of hydrophobic silica associated with the tradename R972 silica, obtained from Nippon Aerosil. See Fields'880, col. 12, lines 10-20 and 45-51, and Table 3 at col. 13, example 6; and Application'707, page 21, lines 10-13, page 22, lines 13-16, and Table 3 at page 23, example 6. After mixing the toner particles with the magnetic carrier for 2

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minutes, the toner particles had a MECCA charge to mass ratio (Q/m) of  $-16.8 \mu\text{C/g}$ . After mixing the toner particles with the magnetic carrier for 10 minutes, the toner particles had a MECCA Q/m of  $-19.4 \mu\text{C/g}$ . The charge ratio of the Q/m at 2 minutes to the Q/m at 10 minutes is 0.9, which is numerically within the range of about 0.9 to about 1.1 recited in instant claim 30. Fields'880, col. 12, lines 57-63, and Table 3, example 6. Application'707, paragraph bridging pages 22 and 23, and Table 3, example 6.

The Fields'880 two minutes MECCA charge level of  $-16.8 \mu\text{C/g}$  meets the lower limit, "about  $-20 \mu\text{C/g}$ ," in the range "about  $-20$  to about  $-30 \mu\text{C/g}$ " recited in instant claim 30. The term "about" admits variation. There is no evidence on the present record showing that the charge level of "about  $-20 \mu\text{C/g}$ " is patentably distinct from the Fields'880 charge level of  $-16.8 \mu\text{C/g}$ .

10. Claims 33, 38, 40, and 41 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fields'880, as evidenced by Application'707.



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Fields'880, as evidenced by Application'707, teaches a developer as described in paragraph 9 above, which is incorporated herein by reference.

The toner particles in example 6 of Fields'880 meet the compositional limitations recited in the instant claims but for the presence of silica in the toner binder resin. The amount of 88.9 wt% of the crosslinked styrene-acrylate copolymer associated with the tradename SB77XL is within the range of "about 80 wt% to about 95 wt%" recited in instant claim 33. The amount of 1.5 wt% of the organo iron complex charge control agent associated with the tradename T77 is within the range of "about 1 wt% to about 2.5 wt%" recited in instant claim 33. The amount of 0.30 wt% of the hydrophobic silica is within the ranges of "about 0.05 wt% to about 5.0 wt%" recited in instant claim 33. See Fields'880, col. 12, lines 10-20, and Table 3 at col. 13, example 6; and Application'707, page 21, lines 10-13, and Table 3 at page 23, example 6.

As discussed above, Fields'880 does not expressly disclose that its toner particles comprise silica as recited in the instant claims. However, as discussed above, the Fields'880 toner particles meet the compositional limitations recited in the instant claims but for the presence of silica. The toner particles also exhibit a 2'/10' MECCA charge ratio of 0.9, which

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is within the range of "about 0.9 to about 1.1" recited in instant claim 40. As discussed in paragraph 9 above, the Fields'880 two minutes MECCA charge level of  $-16.8 \mu\text{C/g}$  meets the lower limit, "about  $-20 \mu\text{C/g}$ ," in the range "about  $-20$  to about  $-30 \mu\text{C/g}$ " recited in instant claim 40. The term "about" admits variation. There is no evidence on the present record showing that the charge level of "about  $-20 \mu\text{C/g}$ " is patentably distinct from the Fields'880 charge level of  $-16.8 \mu\text{C/g}$ . Thus, based on the above facts, it is reasonable to presume that the toner particles in example 6 of Fields'880 comprise the silica as recited in instant claims. The burden is on applicants to prove otherwise. In re Fitzgerald, 205 USPQ 594 (CCPA 1980).

11. Claims 13 and 22 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fields'880, as evidenced by Application'707.

Fields'880, as evidenced by Application'707, discloses a developer as described in paragraph 10 above, which is incorporated herein by reference.

The toner particles in example 6 of Fields'880 meet the compositional limitations recited in the instant claims but for the presence of the silica in the toner resin. The amount 2.0 wt% of the polyethylene wax is within the range of "about

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0.1 wt% to about 10 wt%" based on the weight of the toner particles recited in instant claims 13 and 22.

For the reasons discussed in paragraph 10, supra, it is reasonable to presume that the toner particles in example 6 of Fields'880 comprise the silica as recited in instant claims. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Claims 13 and 22 are written in product-by-process format. Fields'880 does not disclose that the cross-linked styrene-acrylate copolymer is made by a "limited coalescence" process as recited in the instant claims. However, as discussed above, the Fields'880 copolymer meets the compositional limitations recited in instant claim 33 and 40. Accordingly, the Fields'880 copolymer appears to be the same or substantially the same as the toner resin made by the "limited coalescence" process recited in the instant claims. The burden is on applicants to prove otherwise. In re Marosi, 218 USPQ 289 (Fed. Cir. 1983); In re Thorpe, 227 USPQ 964 (Fed. Cir. 1985); MPEP 2113.

12. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fields'880, as evidenced by Application'707, combined with US 5,500,320 (Saha).

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Fields'880, as evidenced by Application'707, discloses a developer as described in paragraph 10 above, which is incorporated herein by reference.

Fields'880 does not exemplify a magnetic carrier comprising strontium ferrite particles as recited in the instant claims. However, Fields'880 teaches that the magnetic carrier may comprise ferrite particles, such as ferrites comprising strontium. See Fields'880, col. 6, lines 45-58; and Application'707, page 11, line 14, to page 12, line 7.

Saha teaches hard magnetic carrier particles comprising strontium ferrite particles coated with a polymeric coating. Col. 3, lines 58-67, and col. 9, lines 43-46. Saha discloses that said carrier particles provide developer compositions for magnetic brush development having high development speeds without loss of copy image quality. Col. 3, lines 2-15, col. 6, lines 25-39, and col. 10, lines 6-41.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Saha, to use Saha's strontium ferrite resin coated particles as the magnetic carrier in the developer disclosed in example 6 of Fields'880, because that person would have had a reasonable expectation of successfully obtaining a developer capable of being used for

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magnetic brush development having high development speeds without loss of copy image quality.

13. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fields'880, as evidenced by Application'707, combined with Saha, as applied to claim 27 above, further combined with US 5,102,769 (Creatura).

Fields'880, as evidenced by Application'707, combined with Saha renders obvious a developer as described in paragraph 12 which is incorporated herein by reference.

Saha does not teach that its strontium ferrite carrier particles are coated with a blend of polyvinylidene and polymethmethacrylate polymers as recited in instant claims 28 and 29. However, Saha teaches that his carrier particles can be coated with a poly(vinylidene fluoride) resin (e.g., KYNAR) or polymethacrylate resins. Col. 7, lines 7 and 14-15.

Creatura teaches that magnetic carrier particles can be coated with a polymeric coating comprising a blend of poly(vinylidene fluoride) and poly(methylmethacrylate) in a weight of ratio of 3 to 2. Example V at cols. 11-12. The ratio of 3 to 2 meets the ratio of about 80/20 to about 50/50 recited in instant claim 29. Creatura discloses that developers comprising said carrier particles provide images having

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acceptable solids, excellent halftones, and desirable line resolution, with acceptable or substantially no background deposits. Col. 10, lines 25-29.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Creatura, to coat Saha's strontium ferrite carrier particles with Creatura's polymeric coating and to use those carrier particles as the magnetic carrier in the developer rendered obvious over the combined teachings of Fields'880 and Saha, because that person would have had a reasonable expectation of successfully obtaining a developer capable of providing toner images having acceptable solids, excellent halftones, and desirable line resolution, with acceptable or substantially no background deposits, as taught by Creatura.

14. Applicants' arguments filed on Jun. 30, 2004, with respect to the rejections set forth in paragraphs 9-13 above have been fully considered but they are not persuasive.

Applicants assert that Fields'880 does not disclose any toner particles having a 2'/10' MECCA charge ratio of about 0.9 to about 1.1 and a 2 minute charge level of from about -20 to about -30  $\mu\text{C/g}$  as recited in instant claims 30 and 40.

Applicants also assert that "a 2 minute charge level of about

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-20  $\mu\text{C/g}$  is clearly not literally within a charge level of -16.8  $\mu\text{C/g}$ . This is over a 15% difference."

However, as discussed in the rejections in paragraphs 9 and 10 above, the term "about" admits variation. Applicants' assertion that the charge level of about -20  $\mu\text{C/g}$  is not within a charge level -16.8  $\mu\text{C/g}$  is mere attorney argument. There is no objective evidence on the present record showing that charge level of "about -20  $\mu\text{C/g}$ " is patentably distinct from the Fields'880 charge level of -16.8  $\mu\text{C/g}$ . Accordingly, the rejection stands.

With respect to the rejections under 35 U.S.C. 103(a), applicants assert that Fields is not prior art under 35 U.S.C. 103(c). Applicants state that "Fields et al. and the present application were, at the time each invention was made, owned by the same companies and subject to an obligation of assignment to the same companies" (emphasis added).

However, Fields'880 is prior art to the instant application under 35 U.S.C. 103(c). Applicants statement clearly and unambiguously asserts no more than that company X "owned" application A (the present application) when A was made, and that company X "owned" application B (the reference patent) when B was made. However, applicants do not state clearly and unambiguously that when application A was made, company X owned

both application A and application B. A proper statement of ownership would be "Application X and Patent A were, at the time the invention of Application X was made, owned by Company Z." See MPEP 706.02(1)(2)(II) (8th edition, Rev. 2, May 2004) and the Official Gazette, December 26, 2000, 1241 OG 96, "Guidelines Setting Forth a Modified Policy Concerning the Evidence of Common Ownership, or an Obligation of Assignment to the Same Person as Required by 35 U.S.C. 103(c)," III and IV. Accordingly, the rejections under 35 U.S.C. 103(a) over Fields' 880 stand.

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

16. The reference US 6,197,466 B1 (Fields' 466), which is listed on the form PTO-1449 filed on Jan. 18, 2005, has an issue date that is prior to the filing date of the instant application. Accordingly, Fields' 466 also qualifies as prior under 35 U.S.C. 102(a).



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17. Claims 4, 17, 30, 35, and 44 are rejected under 35 U.S.C. 102(e) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over US 6,197,466 B1 (Fields'466), as evidenced by the ACS File registry number 60806-47-5.

Claim 4, 17, 30, 35, and 44 are rejected under 35 U.S.C. 102(a) as being anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fields'466, as evidenced by the ACS File registry number 60806-47-5.

Fields'466 exemplifies a developer comprising a magnetic hard ferrite carrier and toner particles. The toner particles comprise 92.2 wt% of a styrene-acrylic copolymer, identified by the CAS #60806-47-5, produced by Eastman Kodak, 6.4 wt% of carbon black, and 1.4 wt% of a single charge control agent, an organo iron complex charge control agent associated with the tradename T77. The toner particles are surface treated with 0.15 wt% of hydrophobic silica associated with the tradename HDK 1303, obtained from Wacker Chemie. See Fields'466, col. 3, lines 15-35; col. 7, line 64, to col. 8, line 31; Table 2 at col. 4; and Table 8 at col. 9, example 5, two steps. The amounts of 92.2 wt%, 6.4 wt%, and 1.4 wt% were determined from the information provide at col. 3, lines 15-35. The CAS, i.e., ACS, file registry no. 60806-47-5, identifies the styrene-acrylic copolymer in Fields'466 as a styrene-butylacrylate-

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divinylbenzene copolymer. Thus, the styrene-acrylic copolymer in Fields'466 is a crosslinked styrene-acrylate copolymer as recited in instant claims 30 and 44. After mixing the toner particles with the magnetic hard ferrite carrier for 2 minutes, the toner particles had a charge level of  $-15.6 \mu\text{C/g}$ . After mixing the toner particles with the magnetic hard ferrite carrier for 10 minutes, the toner particles had a charge level of  $-17.6 \mu\text{C/g}$ . The charge ratio at 2 minutes to the charge level at 10 minutes is 0.9, which is numerically within the range of about 0.9 to about 1.1 recited in instant claims 30 and 44. Fields'466, col. 7, line 64, to col. 8, line 31; and Table 8 at col. 9, example 5, two steps.

The Fields'466 two minutes charge level of  $-15.6 \mu\text{C/g}$  meets the lower limit, "about  $-20 \mu\text{C/g}$ ," in the range "about  $-20$  to about  $-30 \mu\text{C/g}$ " recited in instant claim 30. The term "about" admits variation. There is no evidence on the present record showing that the charge level about  $-20 \mu\text{C/g}$  is patentably distinct from the Fields'466 charge level of  $-16.8 \mu\text{C/g}$ .

Fields'466 does not disclose that the charge levels were determined using a MECCA device as recited in the instant claims. However, as discussed above, the charge levels disclosed by Fields'466 are numerically within the 2'/10' charge ratio range in instant claims 30 and 44, and the two minutes

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charge level range recited in instant claim 30. Accordingly, it is reasonable to presume that the charge levels disclosed by Fields'466 are the same as those determined by a MECCA device. The burden is on applicants to prove otherwise. Fitzgerald, supra.

18. Claims 2, 5, 6, 14, 16, 23, 31-33, 36, 37-41, 45, and 46 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fields'466, as evidenced by the ACS File registry number 60806-47-5.

Claims 2, 5, 6, 14, 16, 23, 31-33, 36, 37-41, 45, and 46 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fields'466, as evidenced by the ACS File registry number 60806-47-5.

Fields'466, as evidenced by the ACS File registry number 60806-47-5, teaches a developer as described in paragraph 17 above, which is incorporated herein by reference.

The toner particles in example 5 of Fields'466 meet the compositional limitations recited in the instant claims but for the presence of colloidal silica or silica in the toner binder resin. The amount of 92.2 wt% of the crosslinked styrene-acrylate copolymer meets the amount of "about 90 wt%" and is within the range recited in instant claims 14 and 33,

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respectively. The term "about" admits variation. There is no evidence on the present record showing that the amount of "about 90 wt%" recited in instant claim 14 is patentably distinct from the Fields'466 amount of 92.2 wt%. The amount of 1.4 wt% of the organo iron complex charge control agent associated with the tradename T77 meets the amount of "about 1.8 wt%" and is within the range of "about 1 wt% to about 2.5 wt%" recited in instant claims 14 and 33, respectively. There is no evidence on the present record showing that the amount of "about 1.8 wt%" is patentably distinct from the Fields'466 amount of 1.4 wt%. The amount of 0.15 wt% meets the amount of "about 0.2 wt%" and is within the range of "about 0.05 wt% to about 5.0 wt%" recited in instant claims 14 and 33, respectively. There is no evidence on the present record showing that the amount of "about 0.2 wt%" is patentably distinct from the Fields'466 amount of 0.15 wt%. See Fields'466, col. 3, lines 15-35; Table 2 at col. 4; and Table 8 at col. 9, example 5, two steps.

As discussed above, Fields'466 does not expressly disclose that its toner particles comprise colloidal silica or silica as recited in the instant claims. However, as discussed above, the Fields'466 toner particles meet the compositional limitations recited in the instant claims but for the presence of the colloidal silica or silica. The toner particles also exhibit a

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2'/10' charge ratio of 0.9, which is within the range of "about 0.9 to about 1.1" recited in the instant claims. As discussed in paragraph 17 above, the Fields' 466 two minutes charge level of  $-15.6 \mu\text{C/g}$  meets the lower limit, "about  $-20 \mu\text{C/g}$ ," in the range "about  $-20$  to about  $-30 \mu\text{C/g}$ " recited in instant claims 31, 40, and 46. The term "about" admits variation.

There is no evidence on the present record showing that the charge level of "about  $-20 \mu\text{C/g}$ " is patentably distinct from the Fields' 466 charge level of  $-15.6 \mu\text{C/g}$ . Thus, based on the above facts, it is reasonable to presume that the toner particles in example 5 of Fields' 466 comprise the colloidal silica or silica as recited in instant claims. The burden is on applicants to prove otherwise. Fitzgerald, supra.

19. Claims 9, 10, 18, and 19 and are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fields' 466, as evidenced by the ACS File registry number 60806-47-5.

Claims 9, 10, 18, and 19 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Fields' 466, as evidenced by the ACS File registry number 60806-47-5.

Fields' 466, as evidenced by the ACS File registry number 60806-47-5, discloses a developer as described in paragraph 18 above, which is incorporated herein by reference.

The toner particles in example 5 of Fields' 466 meet the compositional limitations recited in the instant claims but for the presence of the colloidal silica or silica in the toner resin.

For the reasons discussed in paragraph 18 supra, it is reasonable to presume that the toner particles in example 6 of Fields' 466 comprise the colloidal silica or silica as recited in instant claims. The burden is on applicants to prove otherwise. Fitzgerald, supra.

Claims 9, 10, 18, and 19 are written in product-by-process format. Fields' 466 does not disclose that the cross-linked styrene-acrylate copolymer is made by a "limited coalescence" process as recited in the instant claims. However, as discussed above, the Fields' 466 copolymer meets the compositional limitations recited in instant claims 5, 14, 32, 33, and 40. Accordingly, the Fields' 466 copolymer appears to be the same or substantially the same as the toner resin made by the "limited coalescence" process recited in the instant claims. The burden is on applicants to prove otherwise. Marosi, supra; Thorpe, supra; MPEP 2113.

20. Claims 7, 11, 13, 15, 20, 22, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fields' 466, as evidenced by the ACS File registry number 60806-47-5, combined with US 5,707,772 (Akimoto)..

Fields' 466, as evidenced by the ACS File registry number 60806-47-5, discloses a developer as described in paragraph 18 above, which is incorporated herein by reference.

Fields' 466 does not exemplify toner particles comprising a releasing agent as recited in the instant claims.

Akimoto discloses a low molecular weight polyethylene releasing agent synthesized by using a metallocene catalyst. Akimoto discloses that said polyethylene releasing agent has a sharp molecular weight distribution. Col. 2, lines 61-64, and releasing agent 2 in Table 1. Akimoto discloses that a toner comprising said polyethylene releasing agent has improved storage stability, fixing property, and durability. Col. 2, lines 65-67. The toner also exhibits little off-set and less "winding phenomenon." Col. 2, lines 21-22, and toner 2 in Table 2. Akimoto further teaches that the polyethylene releasing agent may be added to the toner in an amount of 0.5 to 5.0 wt%, preferably 1.0 to 4.0 wt%, to the binder resin. Col. 9, lines 19-21. The amount range of 1.0 to 4.0 wt% based

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on the binder resin encompasses the amounts of "about 1.8 wt%" and is within the range of about 0.1 to about 10 wt% based on the weight of the toner particles recited in instant claims 15 and 13, respectively. Akimoto discloses that if the amount is too large, the amount of releasing agent existing the surface of the toner is increased so that fluidity is reduced. If the amount is too small, the fixing effect cannot be provided. Col. 9, lines 21-26. The prior art reference recognizes that the amount of the polyethylene releasing agent is a result-effective variable. The variation of a result-effective variable is within the skill of a person having ordinary skill in the art.

It would have been obvious for a person having ordinary skill in the art to use the Akimoto polyethylene releasing agent in an amount that is within the amounts recited in instant claims 13 and 15 in the toner disclosed by Fields' 466, as evidenced by the ACS File registry number 60806-47-5, because that person would have had a reasonable expectation of successfully obtaining a developer having the improvements disclosed by Akimoto.

Claims 11, 13, 15, 20, 22 and 24 are written in product-by-process format. Fields' 466 does not disclose that the cross-linked styrene-acrylate copolymer is made by a "limited



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coalescence" process as recited in the instant claims. However, as discussed above, the Fields'466 copolymer meets the compositional limitations recited in instant claims 5, 14, 33, and 40. Accordingly, the Fields'466 copolymer appears to be the same or substantially the same as the toner resin made by the "limited coalescence" process recited in the instant claims. The burden is on applicants to prove otherwise. Marosi, supra; Thorpe, supra; MPEP 2113.

21. Claims 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fields'466, as evidenced by the ACS File registry number 60806-47-5, combined with Saha.

Fields'466, as evidenced by the ACS File registry number 60806-47-5, discloses a developer as described in paragraph 18 above, which is incorporated herein by reference.

Fields'466 does not exemplify a magnetic carrier comprising strontium ferrite particles as recited in the instant claims. However, Fields'466 teaches that the magnetic carrier comprises hard ferrite particles. Col. 7, line 65.

Saha teaches hard magnetic carrier particles comprising strontium ferrite particles coated with a polymeric coating. The discussion of Saha in paragraph 12 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Saha, to use Saha's strontium ferrite resin coated particles as the hard magnetic carrier in the developer disclosed in example 5 of Fields' 466, as evidenced by the ACS File registry number 60806-47-5, because that person would have had a reasonable expectation of successfully obtaining a developer capable of being used for magnetic brush development having high development speeds without loss of copy image quality.

22. Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fields' 466, as evidenced by the ACS File registry number 60806-47-5, combined with Saha, as applied to claim 27 above, further combined with Creatura.

Fields' 466, as evidenced by the ACS File registry number 60806-47-5, combined with Saha renders obvious a developer as described in paragraph 21, which is incorporated herein by reference.

Saha does not teach that its strontium ferrite carrier particles are coated with a blend of polyvinylidene and polymethmethacrylate polymers as recited in instant claims 28 and 29. However, Saha teaches that his carrier particles can be

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coated with a poly(vinylidene fluoride) resin (e.g., KYNAR) or polymethacrylate resins. Col. 7, lines 7 and 14-15.

Creatura teaches that magnetic carrier particles can be coated with a polymeric coating comprising a blend of poly(vinylidene fluoride) and poly(methylmethacrylate) in a weight of ratio of 3 to 2. The discussion of Creatura in paragraph 13 above is incorporated herein by reference.

It would have been obvious for a person having ordinary skill in the art, in view of the teachings of Creatura, to coat Saha's strontium ferrite carrier particles with Creatura's polymeric coating and to use those carrier particles as the magnetic carrier in the developer rendered obvious over the combined teachings of Fields' 466, as evidenced by the ACS File registry number 60806-47-5, and Saha, because that person would have had a reasonable expectation of successfully obtaining a developer capable of providing toner images having acceptable solids, excellent halftones, and desirable line resolution, with acceptable or substantially no background deposits, as taught by Creatura.

23. Applicants' amendment necessitated the new ground(s) of rejection presented in this Office action. Applicants' submission of an information disclosure statement under 37 CFR

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1.97(c) with the fee set forth in 37 CFR 1.17(p) on Jan. 18, 2005, prompted the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicants are reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janis L. Dote whose telephone number is (571) 272-1382. The examiner can normally be reached Monday through Friday.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Mark Huff, can be reached on (571) 272-1385. The central fax phone number is (703) 872-9306.

Any inquiry regarding papers not received regarding this communication or earlier communications should be directed to Supervisory Application Examiner Ms. Claudia Sullivan, whose telephone number is (571) 272-1052.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system,

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see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLD

Feb.20, 2005

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